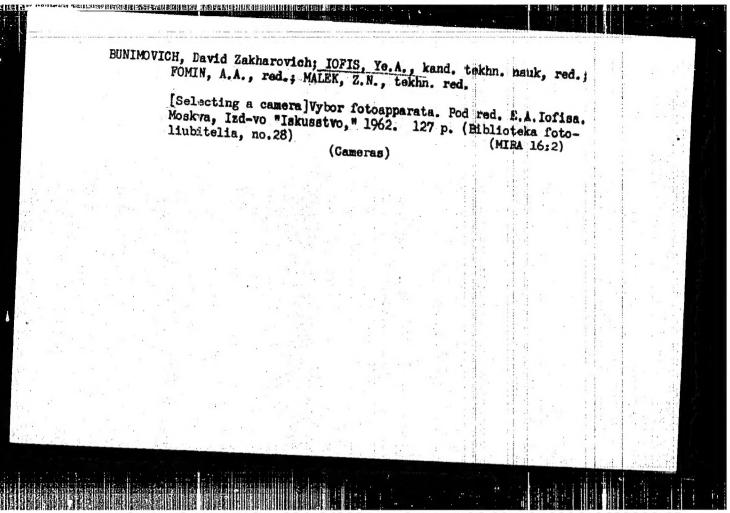


APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618630008-9



DORENSKIY, Leonid Mikhaylovich; IOFIS, Ye.A., kand.tekhn.neuk,red.;
FOMIN, A.A., red.; PERECUDOVA, M.T., tekhn. red.

[Dynamism of the photographic image]Dinamichmost! fotokadra.
Pod red. E.A.Iofisa. Moskva, Izd-vo "Iskuestvo," 1962. 143 p.
illus. (Biblioteka fotoliubitelia, no.27) (MIRA 15:9)

(Photography of sports)

YAKOVLEV, Mikhail Fedorovich; IOFIS, Ye.A., kand. tekhn. nauk, red.;
FOMIN, A.A., red.; MAIEK, Z.N., tekhn. red.

[Repair of cameras]Remont fotoapparatov. Pod red. E.A.Iofisa.
Moskva, Iskusstvo, 1962. 191 p. (Biblioteka fotoliuhitella,
no.29)

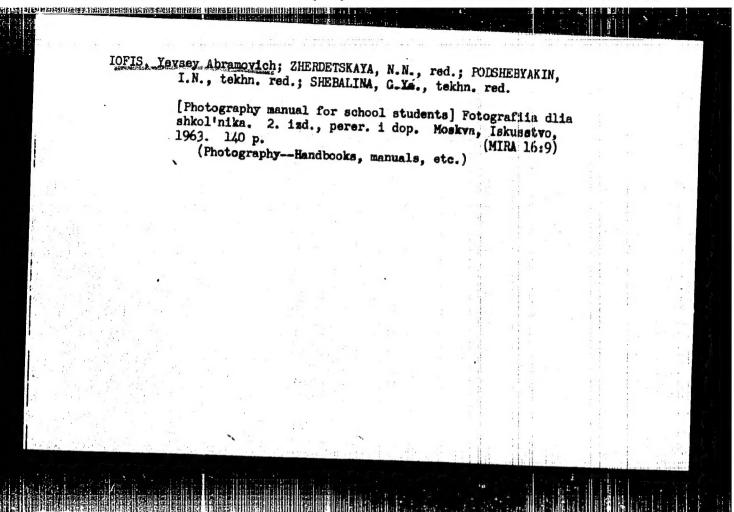
(Cameras—Maintenance and repair)

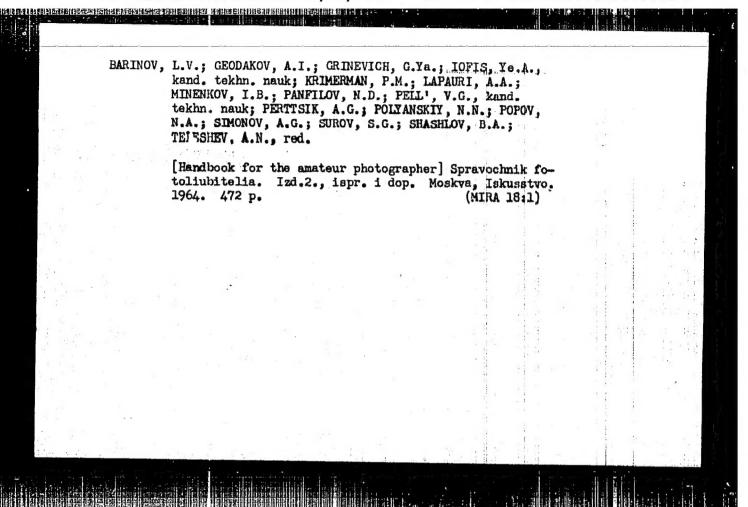
(Gameras—Maintenance and repair)

BUNIMOVICH, David Zakharovich; IGEIS, Ve.A., Yandis tekhn. mank, red.;
ZHEEDETSKAYA, N., red.; renegouldva, M., tekhn. red.

[Enlargement of photographs] Uvelichenie fotosninkov. Pod red. E.A. Iofisa. Moskva, Isd-vo "Iskusstvo," 1963. 85 p. (Bibliotechka fotoliuhitelia, no.32) (MIRA 16:8)

(Photography—Enlarging)





KARTUZHANSKIY, Aleksandr L'vovich; IOFIS, Ye.A., kand. tekhn.
nauk, red.; BOGATOVA, V.S., red.

[Physical foundation of the photographic processes on
silver halide salts] Finicheskie osnovy fotograficheskogo protessa na galogenidoserebrianykh soliakh. Moskva, Iskusstvo, 1965. 84 p. (MIRA 18:5)

SIMONOV, Aleksandr Grigor'yevich; IOFIS Ye.A., kand. tekhn. nauk, red.; ZHERDETSKAYA, N.N., red.

[Photography] Fotos emka. Moskva, Iskusstvo, 1965. 158 p. (MIRA 19:1)

CIA-RDP86-00513R000618630008-9 "APPROVED FOR RELEASE: 08/10/2001

10FD, R.1

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics.

F-2

Abs Jour

: Ref Zhur - Biol., No 3, 1958, 9844

Author

Kleymer, G.I., Ioffo, R.I.

Inst

: - RIZHSKIY ZAVED MEDITSINSKIKH PREPARATOVI

Title

: Conditions for Obtaining High Activity of Strain

hybrid" (Preliminary Communication).

Orig Pub

: Antibiotiki, 1956, 1, No 6, 14-18

Abstract

The productivity of a highly active strain "new hybrid" was studied, which forms, on Moyer and Kokkhill medium with phenylacetamide (0.1%) in flasks on rockers, cultivations up to 4000 penicillin units per ml under conditions of experimental fermentors. Aeration of the cultures had the determining effect on fungus productivity. Supply of air oxygen to the culture depended basically on the intensity of mixing. In mixing air at a speed of 320 rpm the medium did not shownthe presence of dissolved oxygen; at the end of fermentation the medium contained

Card 1/2

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics.

F-2

Abs Jour : Ref. Zh

: Ref Zhur - Biol., No 3, 1958, 9844

80% of the predecessor (substrate?). In mixing air at a speed of 420 rpm the oxygen concentration consisted of 20-25% during 36 hours of cultivation; by the end of fermentation the predecessor (substrate?) was completely utilized. Under conditions of lower aeration (i volume of air to 1 volume of medium per minute) in mixing with a speed of 320 rpm the activity comprised 2238 units per ml. Under conditions of the highest aeration studied (1 volume of air to 1 volume of medium per minute) in mixing with a speed of 420 rpm, the maximal activity obtained was 4225 units per ml after 132 hours of fermentation.

Card 2/2

APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000618630008-9"

Stimulation of penicillin formation in a strain of Penicillium chrysogenum by compounds of bivalent sulfur. Antibiotiki 4 no.4:24-29 J1-Ag 59. (MIRA 12:11)

1. Rishskiy savod meditsinskikh preparatov.

(PMNICILLIUM pharmacol)

(SULFUR pharmacol)

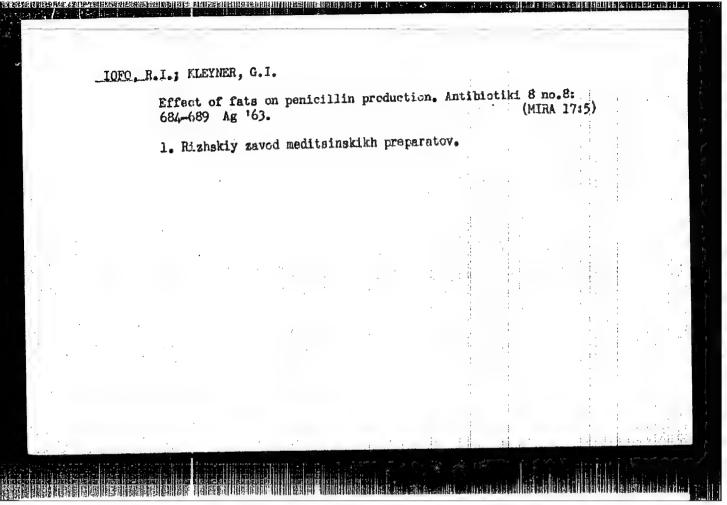
(PMNICILLIUM metab)

LEVITOV, M. M.; KLEYNER, G. I.; GOTOVTSEVA, V. A.; ZAVILEYSKAYA, G. F.; IOHO, R. I.; KAAPOVSKAYA, K. I.; YUDINA, O. D.

"Penicillinacylase production by escherichia coli in relation to cultivation conditions."

report submitted for Antibiotics Cong, Prague, 15-19 Jun 64.

All-Union Sci Res Inst of Antibiotics, Moscow, & Plant for Production of Medicinal Products, Riga.



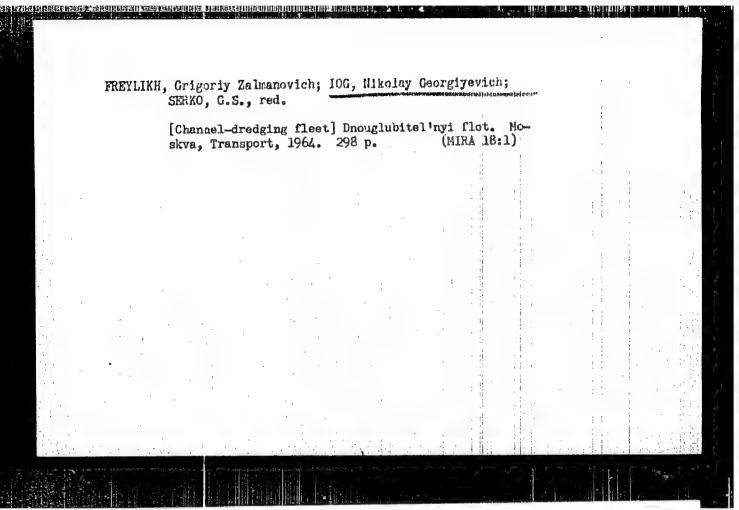
USSR/Engineering
Construction Industry
BIBliography

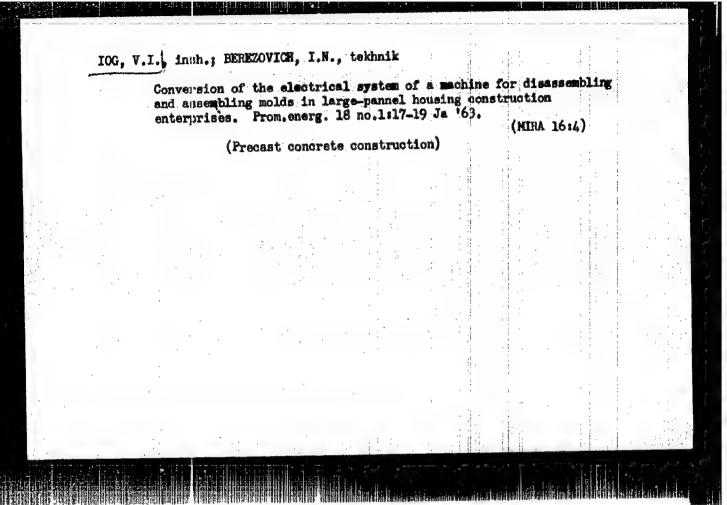
"Soviet Technical Periodicals" 2 pp

"Stroi Prom No 6

Reviews technical periodicals, among other: N. K. Chayka's "Froduction of Tower Cranes for Residential Constructions," I. M. Log's
"Mechanization of Limestone Unloading," D. S. Ioffe's "Mobile—
Suspension Cableway," etc.

PA 43/49742





BUYANOV, V.I.; SHKOLYARENKO, N.D., 100, V.I.; Berezovich, I.N.

Concerning V.I. log and I.N. Berezovich's article "Change in the electrical network of a machine for disassembling and assembling present forms in large-panel construction of deallings." Presence. 19 no. 6243-45 Je*64 (MIRA 1727)

B.Z. LOGA

Category: USSR/Atomic and Molecular Physics - Statistical Physics. D-3

Thermodynamics.

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6269

: Nesmeyanov, A.N., Ioga, B.Z., Strel'nikov, A.A., Firsov, V.G. Author

: lieasurement of the Fressure of Saturated Vepor of Solid Title

Alloys by the Radioactive Tracer Method.

Orig Fub : Zh. fiz. khimii, 1956, 30, No 6, 1250 1257

Abstract : No abstract

: 1/1 Card

> USSR/Genoral Problems of Pathology. Fathophysiology of the Process of Infection

Abs Jour : Rof Zhur - Biol., No 7, 1958, No 32404 APPROVED FOR RELEASE: 08/10/2001

Iogenovskiy Irzhi Author

: Not Given Inst

: Interrelation of Immunity and Susceptibility During Experi-Titlo montrl Strpfiococcrl Infoction.

Orig Fub : Chekhosl. mod. obzor., 1956, 2, No 3, 232-247

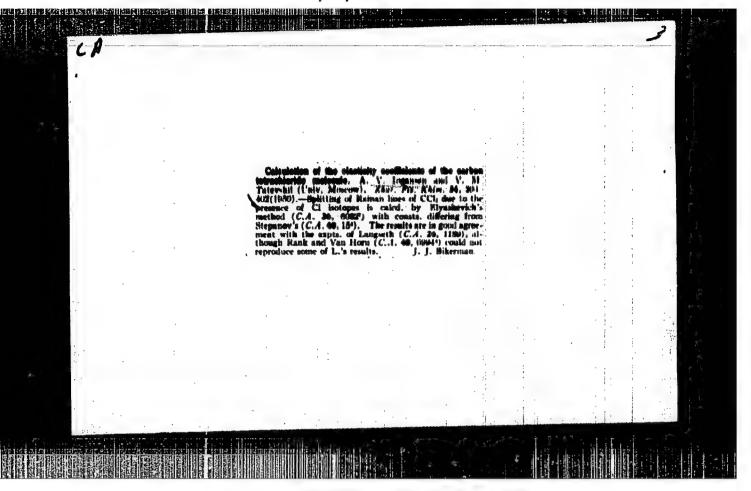
Abstract : Normal rabbits and those immunized with 5 weekly injections of stephylococcel enetoxin and cerlier (for 2.3 or 4-6 months) inoculations of a small dose (1/20 mld) of staphylococcus were infected with r strain of staphylococcus (S) Hood-46 which produces many & -toxins, or with the less toxic strain 217. In thoirmunized and infected rabbits, distinct phenomene were noted of a similar degree of immunity in both groups, and of increased sensitivity and reaction in subsequent infections. In comperison with central enimels, the

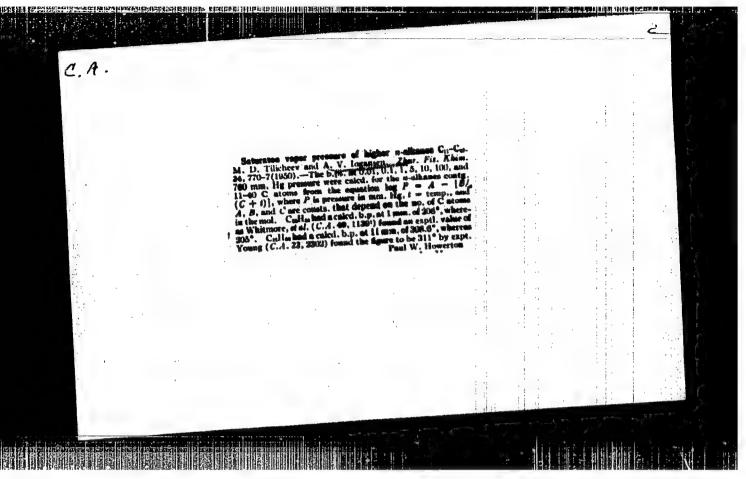
: 1/2 Cord

IOCANGEN, Aleksandr Aleksandrovich; LYUSTIBERG, V.F., insh., ved.
red.; SOKOLOV, I.D., insh., red.; SOROKINA, T.M., tekhn.red.

[800 timer calibrator]Sekundomer-kalibrator tipa 800. Moskva,
Filial Vses.in-ta nauchn. i tekhn.informatsii, 1958. 17 p.
(Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt.
Tema 31. No.P-58-34/6) (MIRA 16:3)
(Automatic timers)

ad skiller frillightligt freiden stellig. 5/120/62/000/006/014/ 9.6000 **AUTHORS:** Gordiyenko, A.I., Iogansen, TITLE: Capacitive time-interval convertors PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 77-81 A precision time-interval converter is described in which a common charging circuit is used to charge capacitances of different values to identical voltages. The circuit was used to reduce the minimum time interval measurable on a counter type time interval meter from 10 µs to 7.8 ns. SUBMITTED: February 13, 1962 Card 1/1





IOGANSEN, A. V.		1000 DO 000 DO 0			1.96TL3
	(CA47 m	Tor to C	beautistics on number of the constraint for the country for th	"Zhur Fiz Khim" Vol XXV, No 11, pp 1295-1299 "Zhur Fiz Khim" Vol XXV, No 11, pp 1295-1299 Ey graphic method found dependence of difference between normal bp of n-alkanes and corresponding	USUB/Obsess story Bydrocarbons
	E ++4: 11:00		is series on number of C alons. Difference maintainty for Cy-Cy alkanes of both as series, uniformly for higher alkanes. Dasis calca normal by for Cy-Cyk 2-methyler found dependence of ratio of by (9K) at pressures of individual 2-methylalkanes.	b. Filiche, " Vol XXV hhod found	Bytroe
	(E)	as (this is applicable to other les). Starting from this depend values of normal bp, it was postst time to det dependence of an on temp Cg-C ₂₄ 2-methylalkanes.	CH-C7 alk CH-C7	Wey, A. Y. Mo ll, y dependenc	bon
			for C10-C24 2-meth ratio of bp (°K) and dual 2-methylalkanes	2h c-metal Logansen, p 1295-129 e of diffe	
	196113	other dependence ras yos of satd	or both er alkanes. Cot 2-methyl- bp (9k) at thylalkanes	Moscow Mo	5

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618630008-9"

Togansen, A.V	refracting carbon		trom c from c imicro imicro	"Dok A	"Hefract	JSSR/c	
: .	showing the straight line relati refractive index and 1/N, where carbon atoms in the hydrocarbon.	Ampril 1	The refractive indices of the normal hydrocarbons from Ci3 to C20 wore carefully measured at 20, 30, and too at the following wave lengths: 569.6 millimicrons (Na D Line), 656.3 millimicrons (Na C Line), 656.1 millicrons (Na F Line), 546.1 millicrons (Na F Line), 545.8 millicrons (Na F Line), 546.1 millic	"Dok Ak Namk SSSR" Vol LXXXI,	"Refractive Indices of Higher n-Paraffins, Yogansen	USSR/Chemistry	
	straight index and in the		C20 #	k SSSR	India	. 1	
	and 1 the hy		indices of the part of the following wave Line), 656.3 mins (Mn F Line), lllicrons (Mn E to the 5th place	ToV "	92	Fuels	
	line re 1/%; wh nydrocas		of the refull grant of the plant of the plan	DOX	Highe		
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	relationship between the where N is the number of sarbon.		he normal hydrocarbons illy measured at 20, 30, re lengths: 569.6 mill-millimicrons (Na C Line Millicrons Mig e g Line). All Figures ace and a graph drawn	No 6, pp 1077-1079			
Na	e number	10	nydrocarbons d at 20, 30 569.6 mill ms (Ne C Li Llicrons fig All rigures graph drawn	1-170	華	<u>त</u>	
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APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000618630008-9"

- 1. IOGANSEN, A.V.
- 2. USCR (600)
- 4. Spectrophotometer

7. Spectrophotometric measurements. Dokl. AN SSSR 87 no. 4. 1952.

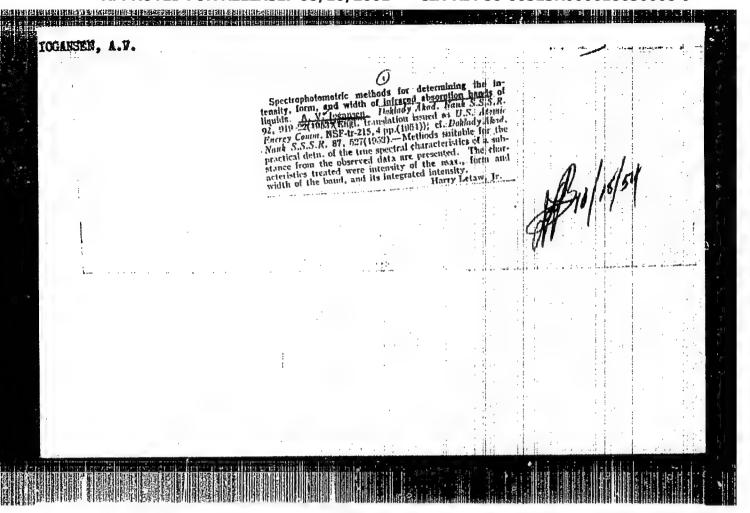
Discusses in a general form the effect of various degrees of monochromatism of emission on measurements of absorption spectra. Derives formulas for computation of discussed effect. Presented by Acad G. S. Landsberg 4 Oct 52.

2561108

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

APPROVED FOR RELEASE: 08/10/2001 CIA

CIA-RDP86-00513R000618630008-9"



IOGANSEN, A. V.

"Methods of Calculating the Effect of the Resolving Capacity of a Monochromator and Some Results of Their Application." Cand Chem Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 19 Nov 54. (VM, 9 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

CIA-RDP86-00513R000618630008-9 "APPROVED FOR RELEASE: 08/10/2001

USSR/ Chemistry - Spectroscopy

Card 1/1

Pub. 43 - 37/62

Authora

Title

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* Zimina, K. I.; Iogansen, A. V.; and Siryuk, A. Q.

AND THE PROPERTY OF THE PARTY O

Application of infrared spectroscopy to the study of petroleum products

Periodical

1 Izv. AN SSSR. Ser. fiz. 18/6, page 707, Nov-Dec 1954

Abstract

Experiments were conducted to determine the applicability of the group structural analysis according to infrared absorption spectra to the study of gasolines, kerosenes, oils and tarry substances (petroleum products). It was determined that infrared spectroscopy can find broad application in the analysis of petroleums in a wide range of molecular weights. Spectroscopy offers greater perspectives in the study of simple hydrocarbon mirtures

than the quantitative analysis method.

Institution : Central Institute of Aviation Fuels and Lubricants

Submitted

CIA-RDP86-00513R000618630008-9 "APPROVED FOR RELEASE: 08/10/2001

USSE/ Physics - Spectral analysis

Card 1/1

Puh. 43 - 38/62

Authora

t Iogansen, A. V.

THE PERSON NAMED IN COLUMN

Title

t Study of the oscillation spectrum of the vinyl group and its quantitative determination in hydrocarbon mixtures

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 708-709, Nov-Dec 1954

Abstract

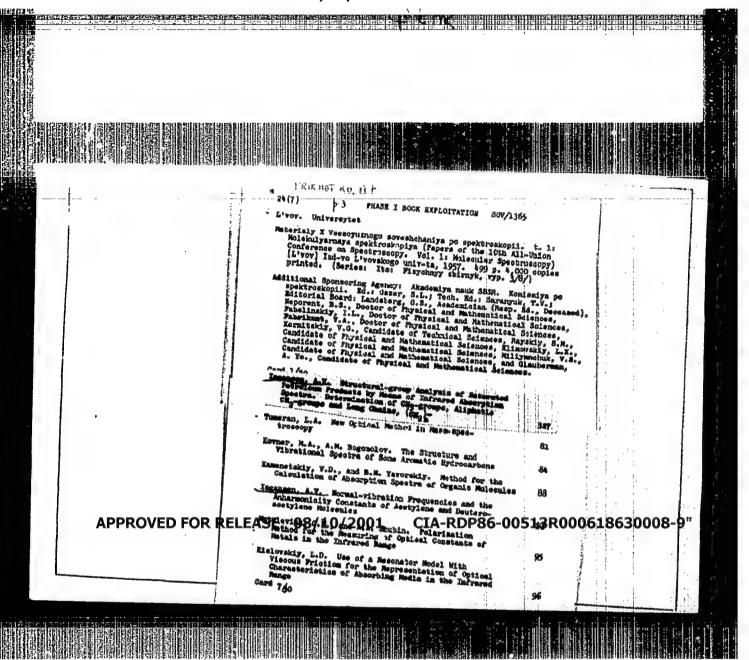
: The infrared absorption spectra were investigated for 1-alkenes, ranging from C, to C, and C. . By calculating the resulving power of the monochromator is became bossible to determine the intensity, form and width of the A sortition tants for the hydrocarbons tested. The method of infrared absorption spectra is considered highly suitable also for other products, especially for high molecular ones (synthetic rubber, etc. .. Two references 1 USA and 1 USSR (1949-1953). Graph.

Institution: Central Institute of Aviation Fuels and Lubricants

Submitted

CIA-RDP86-00513R000618630008-9" APPROVED FOR RELEASE: 08/10/2001





.5(3) S0V/32-25-5-15/62 AUTHORS: Zelenskaya, L. G., Iogansen, A. V., Kurkold, G. A.

TITLE: Quantitative Determinations of the Products of Caprolactamproduction on the Infra-red Spectrometer IKS-12 (Kolichestvennyye opredeleniya produktov proinvodstva kaprolaktama na

infrakrasnom spektrometre IKS-12)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Er 3,

pp 299 - 300 (USSR)

a la stance de la completa del completa del completa de la completa del la completa de la completa del la completa de la compl

ABSTRACT: A lecture was held on this problem at the XII Vseseyuznoye

soveshchaniye po spektroskopii (XII All-Union Conference of Spectroscopy) in Moscow in November 1958. For analysing several products of the caprolactam-production infra-red spectroscopy was used in the case under discussion (Table). The investigations were carried out on the spectrometer

IKS-12 which had an amplifier assembly FEOU-18 and an electronic recording potentiometer EPP-09. The tests were carried out according to the method of measuring "in point" (Ref 1);

thus the value

Card 1/2 lg $\frac{10}{7}$ could be reproduced with an accuracy of $\pm 1\%$

Quantitative Determinations of the Products of SGV/32-25-3-15/62 Caprolactam-production on the Infra-red Spectrometer IXS_12

and the measurements could be accelerated. The concentration of the components was graphically determined from calibration curves. For determining cyclohexane (I) and methyl-cyclopentane (II) the method of a metallic interval standard, the method of a metallic wire screen (Ref 2) was used. Thus the content of the basic component (I) could be determined up to 0.4% relatively precisely as well as small amounts of the slightly absorbable component (II) (up to 0.15% precisely). Cuvettes of MaCl (liquids) and cuvettes protected by phthoroplast (for NO₂ and acgressive components) were used for the tests. Duration of the analysis: 15 minutes to 1.5 Gosudarstvennyy nauchno-issledovatel skiy i proyektnyy institut azotnoy promyshlennosti i proyektnyy in-

ASSOCIATION:

Gosudarstvennyy nauchno-issledovatel skiy i proyektnyy institut azotnoy promyshlennosti i produktov drganicheskogo sinteza (State Scientific Research and Plenning Institute for Nitrogen Industry and Products of Organic Synthesis)

Card 2/2

507/32-25-3-17/62 5(4) AUTHOR: Iogansen, A. V. The Determination of Open Small Chains - (CH2), - of Various TITLE: Lengths From Infra-red Absorption Spectra (Opredeleniye otkrytykh tsepochek - (CH₂)_n - razlichnoy dliny po infrakrasnym spektram pogloshcheniya) Zavodskaya Laboratoriya, 1959, Vol 25, Nr 3, pp 302-303 (USSR) PERIODICAL: A lecture was given on this investigation at the XII Vsesoyuznoye ABSTRACT: soveshchaniye po spektroskopii (Twelfth All Union Conference of Spectroscopy) in Moscow in November 1958. In accordance with the outer deformation oscillations of the C-H bindings, characteristic spectral bands can be observed in infra-red absorption spectra of saturated hydrocarbons with small - (CH2), - chains in the range of from 720-780 cm⁻¹. The intensity and frequency of these spectral bands depend on the length of the non-ramified chains - (CH2)n - in the hydrocarbon molecule and on the structure of the end radical. It was found that the chain - (CH2)n can be subdivided: I. - (n > 6), II. - (n=4-5), III. - (n=3), Card 1/2

SOV/32-25-3-17/62

The Determination of Open Small Chains - $(CH_2)_n$ - of Various Lengths From Infrared Absorption Spectra

IV. - (n=2), and V. - (n=1). A certain absorption band of a certain frequency, intensity, and length corresponds to each of these groups. Thus saturated hydrocarbon of unknown structure can be considered a five-component mixture of the structural groups I. - V. and the content of each of these groups can be determined from the infra-red spectrum. The spectra of 25 individual hydrocarbons were measured and the structural groups $R-(CH_2)_n-CH_3$ were determined from a system of equations. The method was tested on 30 individual hydrocarbons and artificial mixtures and thus the applicability of this kind of determination and its accuracy were proved. There are 1 table and 1 Soviet reference.

ASSOCIATION:

Vsesoyuznyy nauchno-issledovatel'skiy institut neftyanoy promyshlennosti (All-Union Scientific Research Institute of Petroleum Industry)

Card 2/2

5(2) SOV/32-25-7-12/50 AUTHORS: Tarasov, A. I., Kudryavtseva, N. A., Ioganson, A. V., Lulova, N. I. TITLE: Automatic Analysis of Flowing Cases by Means of Chromatograph KhPA-1 (Avtomaticheskiy analiz gazov v potoke na khromatografe KhPA-1) Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, pp 803-805 (USSR) PERIODICAL: ABSTRACT: In collaboration with the Collective Va Re Anders, P. A. Frolovskiy, V. F. Remnev, M. S. Slobodkin and Ye. S. Bulakh of the SKB of petroleum industry, an automatic chromatograph gas analyzer KhPA-1 was designed (Fig 1) for the purpose of controlling the composition of gas flows in technological processes of the petroleum retiring industry and the petroleum chemical industry. The device provides a thermostating of the

feeding analyzer (at temperatures above room temperature), and the application of a detector of the heat conductivity. The

separation columns can be exchanged according to the conditions of the analysis. A new column filling was used, composed of tripolite (from Zikeyev quarry) with an addition of paraffin-naphthene oil and sods. A separation of the hydrocarbons C_1 - C_{Λ} cocurs after 16 - 17 minutes and that of the

Card 1/3

Automatic Analysis of Flowing Gases by Means of Chromatograph KhPA-1

SOV/32-25-7-12/50

TO BE STORY OF THE PARTY OF THE PARTY.

hydrocarbons C₁-C₅ after about 15 - 50 minutes in columns 4 - 6 m long and 6 mm in diameter, filled with the above mentioned substance, at temperatures between 40 - 200 and a flowing rate of the developing gas (nitrogen) of 2 - 8 1/hour. Ethane-ethylene cannot be separated. Sensitivity coefficients were determined and applied for the computation of the gas composition. The results of the analysis obtained by means of the appliance KhPA-1 were compared to those of the chromatograph Fraktovap (of the firm Carlo Erbe, Italy), (Table 1). The reproducibility of the results achieved in the analysis of industrial gases was also determined (Table2). At present a test appliance KhPA-1 is being installed in the gas fractionating plant of the Novo-Ufimskiy neftepererabatyvayushchiy zavod (Novo-Ufimskiy Petroleum Refinery) for the automatic analysis of butane butane fractions. The production of a test series of automatic industrial chromatographs KhPA-1 will be carried out in Moskovskiy zavod KIP (Moscow Works KIP) in 1959. There are 2 figures, 2 tables, and 2 references, 1 of which is Soviet.

Card 2/3

Automatic Analysis of Flowing Gases by Means of Chromatograph KhPA-1

807/32-25-7-12/50

ASSOCIATION:

Vseseyusnyy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva (All-Union Institute for the Refining of Petroleum and Gas, and for the Production of Artificial Liquid Fuels)

Card 3/3

TARASOV, Aleksey Issarionovich. Prinimali uchnatiye: KÜZ'MIMA, A.V.;

ZIMIMA, K.I.; POLYAKOVA, A.A.; IOGANSHM, A.V.; FROLOVEKIY, P.A.;

LULOVA, B.I., L'YOVA, L.A., vedumnniy red.; MUKHIMA, B.A.,

tekhn.red.

[Gases obtained in petroleum refining and methods of their
analysis] Gasy neftepererabotki i metody ikh analisa. Moskva,

Gos.nauchno-tekhn.isd-vo neft. i gorno-toplivnoi lit-ry, 1960.

222 p.

(Petroleum-Refining) (Gases-Analysis)

(MIRA 13:2)

AUTHOR:

Iogansen, A.V.

SOV/51-8-1-27/40

TITLE:

Discussion of Some of the Papers Presented at the Conference on the Theory of Spectroscopic Instruments

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 1, p 126 (USSR)

ABSTRACT:

In 1953 the author (Iogansen) measured the apparatus functions of an IKS-11 spectrometer in the region of 1.014 µ, using a photocell as a receiver and limiting the slit to 0.1-0.2 of its total height. With a LiF prism the following apparatus-function half-widths, Auff. were obtained: 32 μ (slit width s = 20 μ , slit height h = 4 mm). 39 μ (s = 30 μ , h = 4 mm), 47 μ (s = 20 μ , h = 30 mm), 53 μ (s = 30 μ , h=30 mm). Since in the region beyond 3 μ there is still no reliable method of measuring $\Delta y_{\rm eff}$, it is desirable to determine $\Delta y_{\rm eff}$ in the near infrared region and to extend these determinations to further wavelengths and other prisms with appropriate corrections for diffraction and the slit curvature. It would be useful to establish standard bands for determination of $\Delta \nu_{\rm eff}$ in various regions of the spectrum. For this purpose it would be necessary to measure absorption band parameters using instruments with high resolving power. This is a complete translation including I table.

Card 1/1

ZAKHARKIN, L.I.; KORNEYA, V.V.; IOGANSEN, A.V.

Admixture of hydrogen chloride and acetic acid to isomeric 1, 5, 9cyclododecatrienes. Dokl.AN SSSR 138 no.2:373-376 My '61.

(MIRA 14:5)

1. Institut elementoorganicheskoy khimil Akademii nauk SSSR.
Predstavleno akademikom M.I.Kabaohnikom.

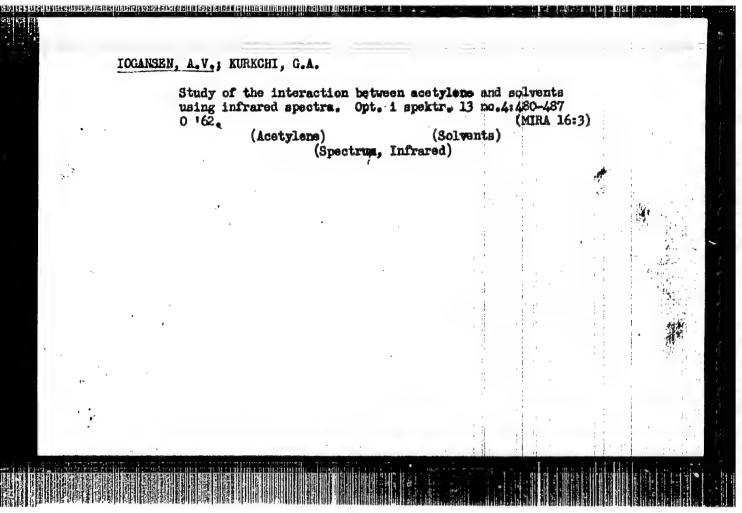
(Rydrogen chloride) (Acetic acid) (Cyclododecane)

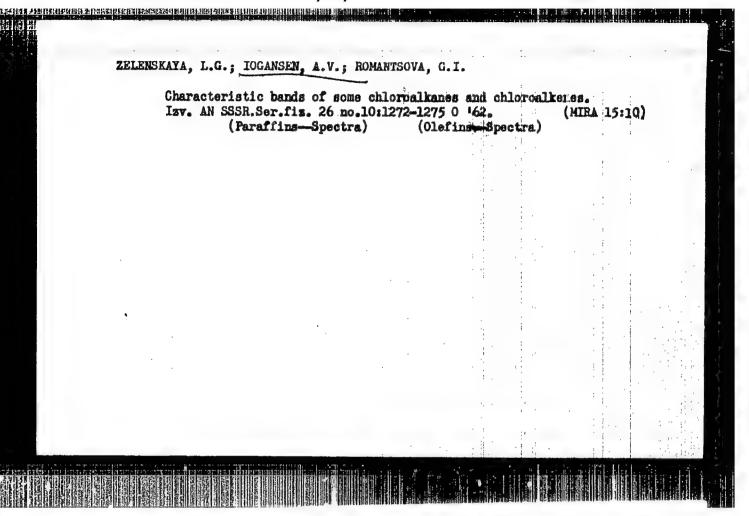
ICCANSEN, A.V.

Structural group analysis based on infrared spectra. Khim.i tekh. topl.i masel 7 no.5:16-22 My '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

(Hydrocarbons--Spectra)

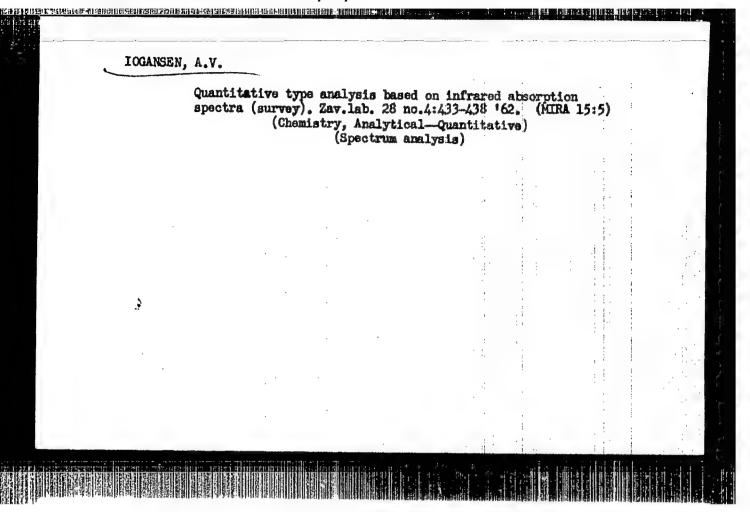




KONTOROVICH, L.M.; LOGANSEN, A.V.; LEVCHENKO, G.T.; SEMINA, G.N.; BOBROVA, V.P.; STEPANOVA, V.A.

Chromatographic analysis of acetylenic hydrodarbons. Zav.lab. (MIRA 15:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza. (Hydrocarbons) (Chromatographic analysis)



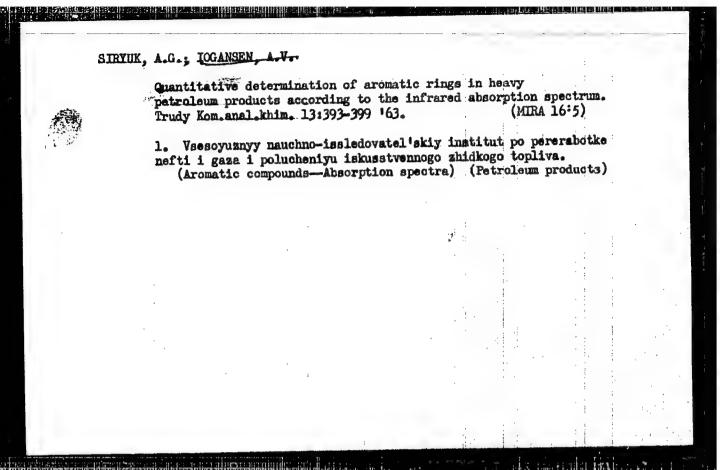
KURKCHI, G.A.; ICCANSEN, A.V. Gas-chromatographic detarmination of the solubility of gases and vapors in liquids. Dokl.AN SSSR 145 no.5:1085-1088 '62. (MIRA 15:8) 1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut asotnoy promyshle nosti i produktov organicheskogo sintesa. Predstavleno akademikom M.M.Dubininym. (Gases) (Solubility) (Gas chromatography)

ICGANSEN, A.V.; BROUN, E.V.

Structural-group analysis by infrared absorption spectra; determination of methyl groups in saturated hydrocarbons and alkyl benzenes. Trudy Kom. anal.khim. 13:367-379 163.

(MIRA 16:5)

1. Vsesoyuznyy hauchno-issledovatel skiy institut po pererabetke nefti i gaza i polucheniyu iskusstvennogo zhidkogo toplkva. (Hydrocarbons-Absorption spectra) (Methyl group) (Benzene derivatives)



ZELENSKAYA, L.G.; IOGANSEN, A.V.; KURKCHI, G.A.

Measurements with the IKS-12 infrared spectrometer. Zav.lab. 29
no.4:433-437 '63. (MIRA 16:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut asotnoy promyshlennosti i produktov organicheskogo sinteza. (Spectrometry)

BROUN, E.V.; IOGANSEN, A.V.

Check for the photometric scale of double-beam infrared apparatus. Zav. lab. 29 no.10:1264-1266 163. (MIRA 16:12)

1. Gosudarstvennyy nauchno-issledovatel skiy i projektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza.

IOGANSEN, A.V.; LITOVCHENKO, G.D.

Conjugation effect in the infrared spectra of nitro compounds. Dokl. AN SSSR 153 no.6:1367-1369 D '63.

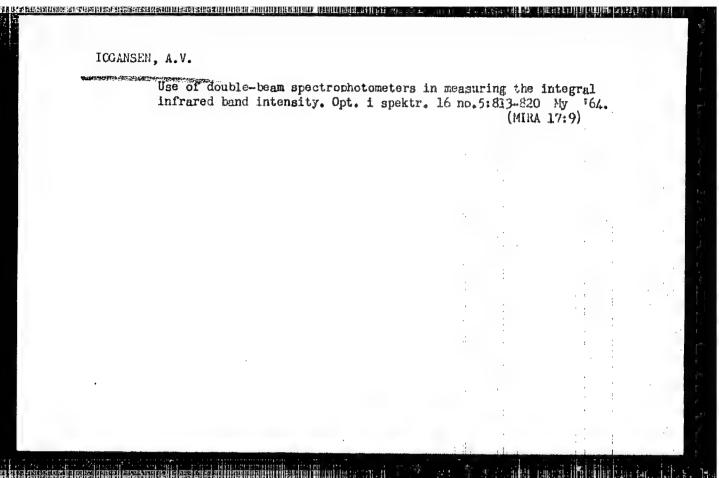
(MIRA 17:1)

1. Gosudarstvennyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza. Prestavleno akademikom A.N.
Tereninym.

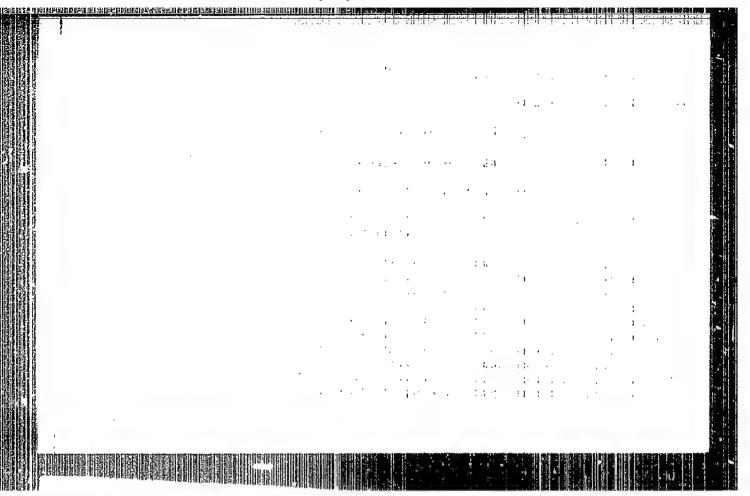
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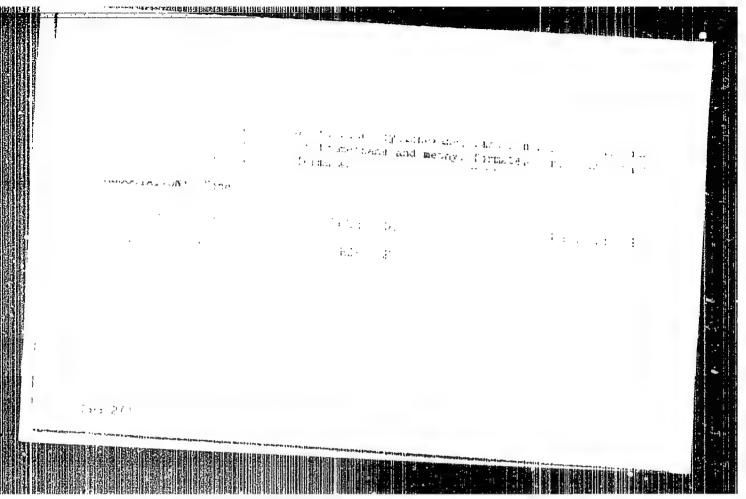
IOGANSEN, A.V.; LITOVCHENKO, G.D. Effect of intermolecular and vibrational interactions on in-

frared absorption bands in nitrogoups. Opt. i spektr. 16 no. 4:700-702 Ap '64. (MIRA 17:5) no. 4:700-702 Ap 164.



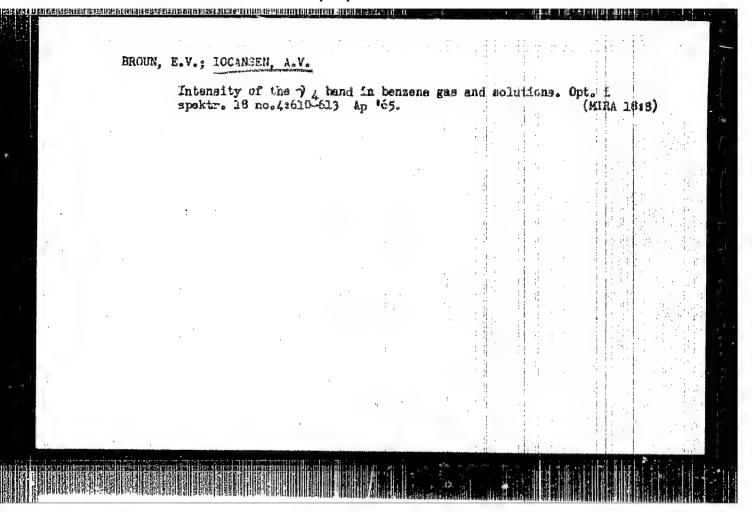
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IOGANSEN, A.V.; LITOVCHENKO, G.D.

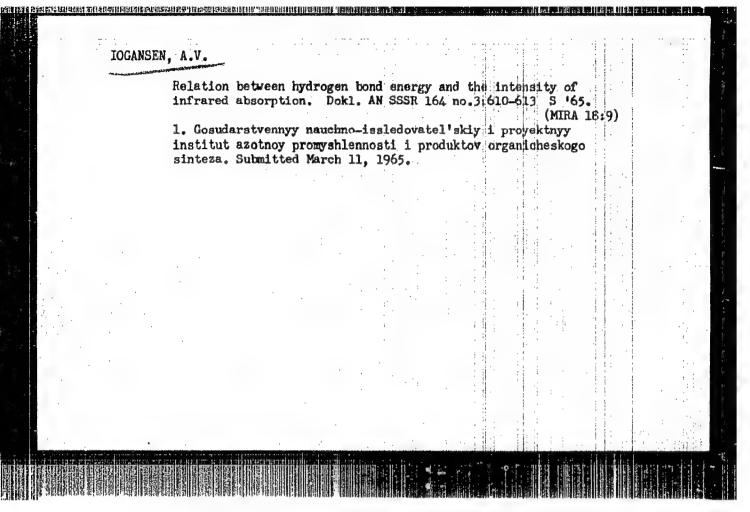
Characteristic bands of valence vibrations in infrared absorption spectra of the nitrogroup. Part 1: Experimental data and assignment of bands. Zhur. prikl. spekt. 2 no.3:243-260 Mr '65. (MIRA 18:6)

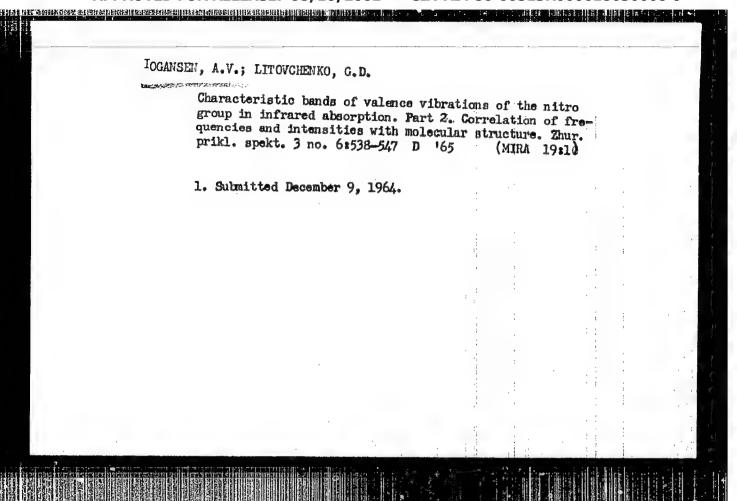


IOGANNEN, A.V.; SELENSKAYA, L.C. SEMINA, G.N.; Prinimali uchsatiye:
ARRATOTA, M.P.; BALIA: MIKCVA, L.V.

Composition of the products of the exidation of dyslohexane.

Rhim. prom. 42 no.97660.661 S '55. (MIRA 18:9)





IADUKHIN, V., samestitel' nachal'nika; IOGANSEN, I., arkhitektor.

Reconstruction of Leningrad's motion-picture theaters. Kinomekhanik no.ll: 30-32 N '53.

1. Otdel kinofikatsii Gorodakogo upravleniye kul'tury, Leningrad. (Leningrad--Moving-picture theaters) (Moving-picture theaters--Leningrad)

SAKHAROVSKIY, Mikhail Federovich, master-al'freyshchik (Leningrad); 100ANSEN,
K.L., arkhitekter-khudeshnik; dotsent, nauchnyr redaktor; EOTHEREC,
A.S., redaktor indatel'stva; FUL'KINA, Ye.A., tekhnicheskiy redaktor.

[The work of a master interior finish painter] Rabota mastera-al'freishchika. Leningrad, Ges.izd-ve lit-ry po stroit. i arkhit., 1956. 31 p.

(Decoration and ornament)

(MIRA 10:4)

21(9) AUTHORS: Logansen, L. V., Rabinovich, M. sov/56-35-4-31/52 TITLE: Coherent Radiation of Electrons in the Synchrotron I (Kogerentnoye izlucheniye elektronov v sinkhrotrone .I) PERIODICAL: Zhurnal eksperimental noy i teoretichaskoy fiziki, 1956, Vol 35, Nr 4, pp 1013 - 1016 (USSR) ABSTRACT: In a 100 MeV-synchrotron the electrons radiate within a wide frequency range: From radiofrequencies with wave lengths of the order of the trajectory length up to ultraviolet- or also X-ray radiation. Within the range: \(\lambda\) average distance between the electrons in the bunch radiation is partly coherent. Coherent radiation in the synchrotron depends above all on the phase vibrations of the electrons. Basic experimental investigations of coherent radiation were carried out by A.M. Prokhorov on a 5 MeV synchrotron

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(Refs 1,2). Rytov (FIAN-report, 1950) investigated coherent radiation on the assumption that all particles in the bunch perform phase oscillations with

Coherent Radiation of Electrons in the Synchrotron .I

SOV/56-35

one and the same amplitude. The problem of coherent radiation of the bunch in the case of any frequency distribution with respect to phase oscillations has hitherto not been investigated. A detailed investigation of physical processes and particle losses during the time of acceleration is therefore of interest. The authors first investigated the case of a single (relativistic) electron revolving on a circular orbit (r) with the angle velocity ω and performing small harmonic phase vibrations ($\Omega \leqslant \omega_0$). It holds that $\psi = \Phi \sin \Omega$ t, where Φ denotes the amplitude of phase vibrations. The potentials of the harmonics and the electron field (Fourier (Fur'ye)) is given, and the distribution of particles with respect to phase vibrations is investigated (Liuville), as well as the case

Card 2/4

of a steady distribution: Distribution density $w(\phi,\dot{\phi},t)$ \cong $w(\dot{\phi})$. The true distribution in the bunch has hitherto been but little investigated. From ex-

perimental amplitude distribution curves for the

Coherent Radiation of Electrons in the Synchrotron .I

SOV/56-35-4-31/52

synchrotron of the FIAN SSSR (Physics Institute AS USSR) at 250 MeV (Ref 4) data are, however, taken for Ψ (ψ) and f (Φ). Finally, the authors investigate the range of wave length, for which radiation is coherent, by means of the form factor for steady distribution, and in the last paragraph non-steady distribution is investigated. The expression derived in this paper by means of the potential of a single-phase modulated electron and of the distribution function of the particles in the bunch for the spectrum of the radiation field potential of the bunch is valid for sufficiently low harmonics for which the radiation is coherent. In conclusion the authors thank A.M. Prokhorov and Yu.M.Ado for valuable discussions and for disclosing experimental data before their publication.

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Coherent Radiation of Electrons in the Synchrotron.I

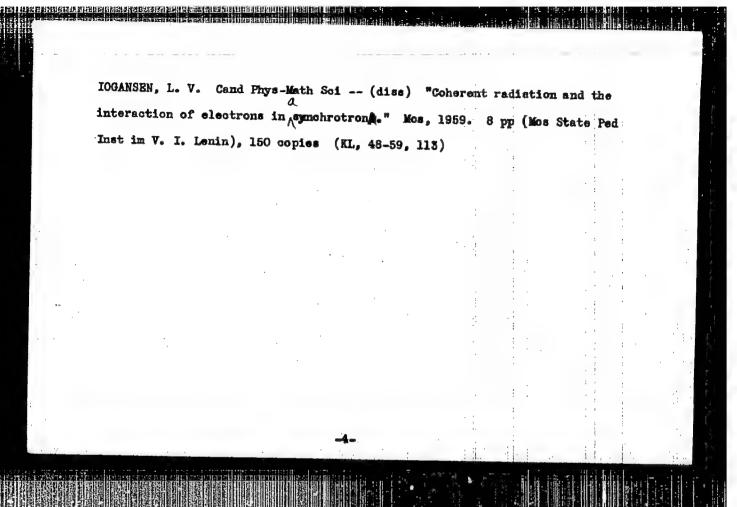
SOV/56-55-4-31/52

ASSOCIATION: Fizicheskiy institut im. P.W.Lebedeva Akademii nauk SSSR (Physics Institute imeni P.N.Lebedev of the Academy of Sciences USSR), Moskovskiy gosudarstvennyy pedagogicheskiy institut (Moscow Pedagogical State Institute)

SUBMITTED:

May 21, 1958

Card 4/4



24(5) AUTHOR:

Iogansen, L. V.

SOV/56-36-1-45/62

TITLE:

The Quantum Corrections to the Radiation of a Relativistic Rigid Rotator (Kvantovyye popravki k izlucheniyu relyativiststkogo zhestkogo rotatora)

PERIODICAL:

Zhurnal eksperimental noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 1, pp 313-314 (USSR)

ABSTRACT:

Calculation of the quantum corrections to the radiation of an electron in a synchrotron is dealt with by several mathematically very complicated Soviet and foreign papers, especially one by A. A. Sokolov et al. (Ref 1). The author of this paper proceeds from the motions of these particles in an axial magnetic field. This warrants a circular motion and weakly focusing forces near the stable orbit. The following is shown by the present paper: it is easy to obtain nearly the same results by completely neglecting excitation of betatron oscillations and considering the electron to be an absolutely rigid rotator. The character of the forces warranting such a rigid focusing is not specialized. A possible interaction of electron spin with the focusing fields is not taken into account. The plane of the orbit with the radius a is considered

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The Quantum Corrections to the Radiation of a Relativistic Rigid Rotator

SOV/56-36-1-45/62

to be an xy-plane, and the center of reference is assumed to be in its center. The Dirac (Dirak) equation for the free azimuthal motion then has the form (\hbar c/ia) ($\sin \psi \alpha_x - \cos \psi \alpha_y$) $\partial \psi / \partial \psi = (E \div \beta \text{ mc}^2) \psi$. For the positive eigenvalues of energy one obtains $E_1 = \hbar \omega_1 = \{(\hbar \text{ c/a})^2 1 (1 \div 1) + (\text{mc}^2)^2\}^{1/2}$ ($1 = 1, 2, \dots$). To each E_1 there correspond 2 eigenfunctions which are also the eigenfunctions of the operators of the projections of the total angular momentum on to the axis. The author here investigates the case of a circular motion with the macroscopic radius a with relativistic velocities. Such a motion is, by the way, quasiclassical. The author in this connection investigates the transitions of the electron from the state ψ_1 to the state ψ_1 , where 1-1 = $n \ll 1$ is assumed.

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A formula is written down for the frequency of the quantum emitted in this transition. The probability of a transition with variation of the projection of the electron spin

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The Quantum Corrections to the Radiation of a Relativistic Rigid Rotator

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 $(\Psi_1^{(\pm)} \rightarrow \Psi_1^{(F)})$ is proportional to $(n/1)^2$ and therefore

only the transitions with conservation of electron polarization are of importance in the approximation under investigation. Next, an expression is given for the intensity of the radiation with the frequency ω_n into the solid angle dec. In the

limiting case 1-00 the exact classical formula is obtained, and by integration over the angles one obtains the total efficiency of the n-th harmonic. In the ultrarelativistic case the total radiation efficiency can be calculated. The author thanks Professor M. S. Rabinovich for valuable advice. There are 3 references, 1 of which is Soviet.

ASSOCIATION:

Moskovskiy gosudarstvennyy pedagogicheskiy institut (Moscow State Pedagogical Institute)

SUBMITTED:

June 25, 1958

Card 3/3

CIA-RDP86-00513R000618630008-9"

21(9) AUTHORS:

Iogansen, L. V., Rabinovich, M. 5.

90V/56-37-1-18/64'

TITLE:

Coherent Electron Radiation in a Synchrotron. II

(Kogerentnoye izlucheniye elektronov v sinkhrotrone. II)

PERIODICAL:

Zhurnal eksperimentalinoy i teoreticheskoy fisiki, 1959,

Vol 37, Nr 1(7), pp 118-124 (USSR)

ABSTRACT:

The authors investigated the electromagnetic interaction of electrons in a thin relativistic bunch under coherent radiation in a synchrotron. In the present paper, it is assumed that all particles in the bunch move on coaxial circles at the same linear velocity v ~ c. Therefore, the betatron vibrations are neglected, and also the instantaneous deviations of the energies of the particles are not considered. This is also justified because in practice the density of the bunch in the synchrontron is much lower than its length. Therefore, the transverse dimensions of the bunch in the first approximation do not enter the expressions for the tangential forces determined in the present paper. Also the interaction of the bunch with the chamber walls, with the poles or the magnet, and

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CIA-RDP86-00513R000618630008-9

Coherent Electron Radiation in a Synchrotron. II SOV/56-37-1-18/64

with the other building elements of real accelerators is not considered, and it is assumed that the electrons move in the unlimited free space. In the 4 parts of the present paper, the following factors are calculated: The interaction between 2 charges in the bunch, the action of the bunch on a single electron, the forces for some bunch nodels, and finally the short-range interaction. The authors thank Academician I. Ye. Tamm for the communication of results of a paper not yet published (Ref 4). There are 1 figure and 6 references, 3 of which are Soviet

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics imeni P. N. Lebedev of the Academy Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina (Moscow State Pedagogical Institute ineni V. I. Card 2/3

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APPROVED FOR RELEASE: 08/10/2001

21 (9) AUTHOR:

logansen, L. V.

80V/56-37-1-47/64

TITLE:

The Influence of Interaction on the Phase Motion of Electrons in a Synchrotron (Vliyaniye vsaimodeystviya ma fasovoye dvisheniye elektronov v sinkhrotrone)

PERIODICAL:

Zhurnal éksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Wr 1, pp 299 - 500 (USSR)

ABSTRACT;

When calculating electron storage systems (100 Mev, N~1014) the electromagnetic interaction forces of electrons in the cluster have hitherto not been taken into account. In the present "Letter to the Editor" the author endeavors to evaluate the influence exercised by these forces upon the phase motion of the electrons, as also the angular dimensions of such a cluster, if the interaction forces are in equilibrium. It is assumed in this connection that the following holds for the angular dimensions: No €1 (Ref 1), and that the chamber walls and the magnet do not influence electron interaction. These assumptions are justified for sufficiently small clusters, In 1948, I. Ye. Tamm already investigated the influence of interaction forces on the electron motion in a synchrotron for a special case. In the present paper

Card 1/2

The Influence of Interaction on the Phase Motion of \$50V/56-37-1-47/64

several relations are deduced and then discussed for a circular orbit and for the ultrarelativistic case. It was found that taking the interaction forces into account influences the reality obtained very considerably. The author thanks M. S. 1 of which is Soviet.

ASSOCIATION:

Moskovskiy gosudarstvennyy pedagogicheskiy institut (Moscow Pedagogical Institute)

SUBMITTED:

March 4, 1959

Card 2/2

21.2000

\$/056/60/038/004/020/048 B006/B056

26.234.) AUTHORS:

Rabinovich, M. S., Iogansen, L.

TITLE:

Coherent Radiation of Electrons in a Synchrotron. III

PERIODICAL:

Zhurnal eksperimental noy i teoreticheskoy fiziki, 1960,

Vol. 38, No. 4, pp. 1183 - 1187

TEXT: In earlier papers (Refs. 1,2) the authors already investigated the action of the coherent radiation forces upon the phase motion of electrons in a synchrotron. However, the screening effect of the vacuum chamber walls was not taken into account, and the particle cluster was assumed to move in an unbounded free space. The same questions were dealt with in the present article, but screening by the chamber walls was taken into account. For reasons of simplicity it is assumed that the cluster moves near an unbounded perfectly conducting plane or between two such planes. The image method was found to be well suited for dealing with such a problem. First, tangential ansatzes for the forces acting tangentially and perpendicularly upon an electron are given and discussed. Next, the interaction forces in the electron cluster are investigated, and

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APPROVED FOR RELEASE: 08/10/2001

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Coherent Radiation of Electrons in a Synchrotron. III

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approximation equations for the acting forces are obtained. Fig. 1 shows the dependence of the coherent forces f_{τ} coh (ψ,p) given by (7) on the azimuth ψ for a cluster of Gaussian shape. In the maximum this force is of the order of $N^2 p^2/a^2 8/3$. The powers of the forces f_{τ} coh (1), given by (5) and those given by (7) are of the order of $N^2 e^2 c/a^2 t^{4/3}$ and $N^2 e^2 cp^2/a^2 t^{8/3}$, respectively. Fig. 2 shows the dependence of the coherent forces f_{τ} (in Ne^2/a^2 units), which act upon a single electron of a square cluster on ψ for the special case $f_{\tau} = 1/8$, $f_{\tau} = 0.1$. Herefrom it may be seen that the regions near the cluster ends play the main part. Finally, approximation formulas are given and discussed for the forces acting in the interior of the cluster. The effect produced by the forces (5) and (7) upon the phase motion of the electrons is estimated. The minimum angular dimensions of the cluster due to the forces given by (5) – without the shielding effect of the walls being taken into accountare of the order of $f_{\tau} \sim (2\pi Ne/aV)^{3/7}$, and the analogous quantity taking Card 2/3

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Coherent Radiation of Electrons in a Synchrotron. III

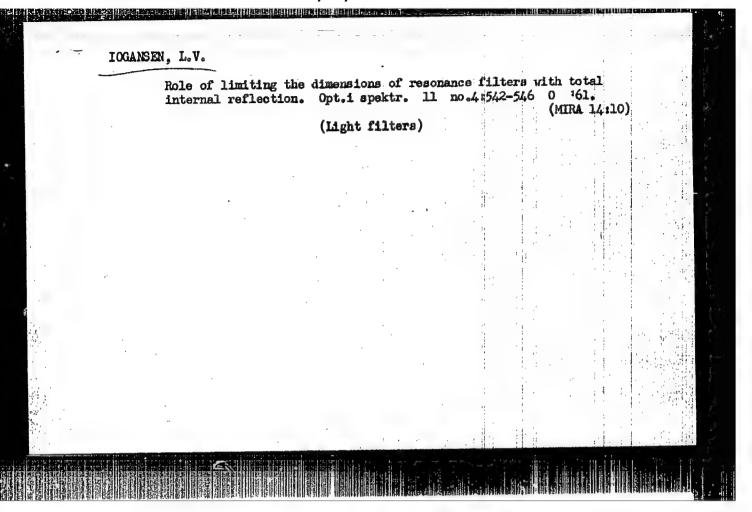
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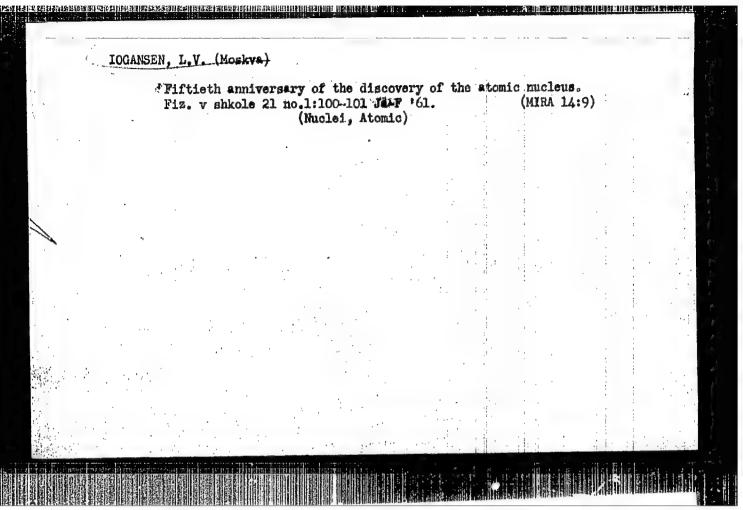
shielding into account due to the forces given by (7) is $\sqrt[3]{c} \sim (2\pi \text{Nep}^2/\text{aV})^{3/11}$. (V is the effective amplitude of the high-frequency voltage, $p = b/a \ll 1$, b - distance between the cluster and the screening plane, a - radius of the particle orbit, $\sqrt[3]{c}$ - effective angular dimension of the cluster, N - number of electrons). There are 2 figures and 4 references; 2 Soviet and 2 US.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics imeni P. N. Lebedev of the Academy of Sciences, USSR)

SUBMITTED: September 30, 1959

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25203 \$/056/61/040/006/024/031 B108/B209

24,1200

AUTHOR:

Iogansen, L. V.

TITLE:

Resonance diffraction of waves in an inhomogeneous sand-

wich - type medium

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,

no. 6, 1961, 1838-1843

TEXT: The author intends to formulate basic and general laws of resonance diffraction. For the sake of simplicity, he considers only scalar waves in a semiinfinite resonance system. The equation of a scalar harmonic

wave reads as follows: $\Delta g(\vec{r}) + k^2 g(\vec{r}) = 0$ (2), where $k^2 = (n\omega/c)^2$. The boundary conditions for the boundary of two media (plane z=0) are the following: $\partial \varphi_1/\partial t = \partial \varphi_2/\partial t$, $\partial \varphi_1/\partial z = \partial \varphi_2/\partial z$ (3). The waves are assumed

to hit the boundary from the xz-plane. The sandwich medium occupies the semi-space x > 0. In the following, the author uses the approximate solutions of the general scalar wave equation $\Delta y = (n/c)^2 \phi = 0$ (1) which

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25203 \$/056/61/040/006/024/031 B108/B209

Resonance diffraction of waves ...

have been taken from Ref. 3 (L. V. logansen, ZhTF (in print)). It is shown that total internal reflection occurs when the waves from medium I in the domain z < 0 fall upon medium II in the domain z > 0. The author discusses a resonance system consisting of four layers, of which numbers II and IV have a low refractive index but I and III a high one. The waves are assumed to strike the media at such an angle that total reflection occurs from the plane P12 and P34 (see Fig.). Penetration of waves through layer II is due to its small thickness d1. The transfer of energy into layer III is of resonance character and depends on the thickness, d2, of layer III (resonator). When resonance conditions are fulfilled, the amplitude of the wave in resonator III will rapidly increase, provided the system is unbounded. If there are boundaries, this resonance accumulation of waves will take place in a certain region bordering the boundary, i.e., a peculiar region of resonance diffraction having a characteristic length will arise. The resonance conditions, which are periodic across the thickness of the resonator, d2, have the following approximate form;

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Resonance diffraction of waves ...

 $\tan(k_z^!d_z)_{res} = -k_z^!(q_z + q_z^!)/(q_zq_z^! - k_z^{!2}) \quad (9), \text{ where } (k_x^2 + k_z^{!2}) = (n_z\omega/c)^2$ and $(k_x^2 - q_z^2) = (n_!\omega/c)^2. \text{ For the case of exact resonance, the wave amplitudes in resonator III in the region <math>x > 0$ are equal to $A_p(x) = B_p(x) = \left[\sqrt{(q_z^2 + k_z^2)(q_z^2 + k_z^2)/2q_zk_z^!} \right] \exp(q_zd_1)(1 - e^{-x/l_0})A_p^2$ (11), and the amplitude of the wave reflected from the first interface is equal to $B_{p_{12}}(x) = 1 - 2e^{-x/l_0} \cdot A_p^2 \cdot A$

length of resonance diffraction is given by $l_0 = (k_x/k_z) \left[(q_z^2 + k_z^2)(q_z^2 + k_z^{'2})/2q_z k_z^{'2})^2 \right] \exp (2q_z d_1)(d_2 + 1/q_z + 1/q_z^{'1})$ (13), which, for an infinite system in the region x $\gg 1_0$ is found in the following form: $l_0 = \left[\left| A_{P_{2z}}(\infty) \right|^2 / \left| A_{\underline{I}} \right|^2 (d_2 + 1/q_z + 1/q_z^{'1}) \right]$ tance (15).

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25203 S/056/61/040/006/024/031 B108/B209

Resonance diffraction of waves...

Mention is made of V. L. Ginzburg. There are 1 figure and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: January 19, 1961

Card 4/5

\$/051/62/012/002/019/020 E032/E514

24,3200

Card 1/2

Iogansen, L. V. AUTHOR:

A total internal reflection resonance-filter of TITLE:

limited size

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 318-326 TEXT: In previous papers (Ref.1: Opt. i spektr., 11, 542, 1961; Ref.2: ZhTF, 32, No.4, 1962; Ref.3: ZhETF, 40, 1838, 1961) the author showed that total internal reflection filters exhibit a peculiar form of resonance which is associated with the presence of reflecting boundaries and that previous theories which do not take into account the presence of boundaries cannot be used in practice. This phenomenon is important not only in optical total internal reflection filters but in any plane-Tayered systems in which the propagation of electromagnetic waves is associated with the resonance effect. The resonance effect always arises when the waves are incident obliquely on a plane-parallel system in which resonance accumulation of energy takes place. The resonance diffraction effect should occur in interference The effect has not been filters, Fabry-Perot etalons and so on.

A total internal reflection ...

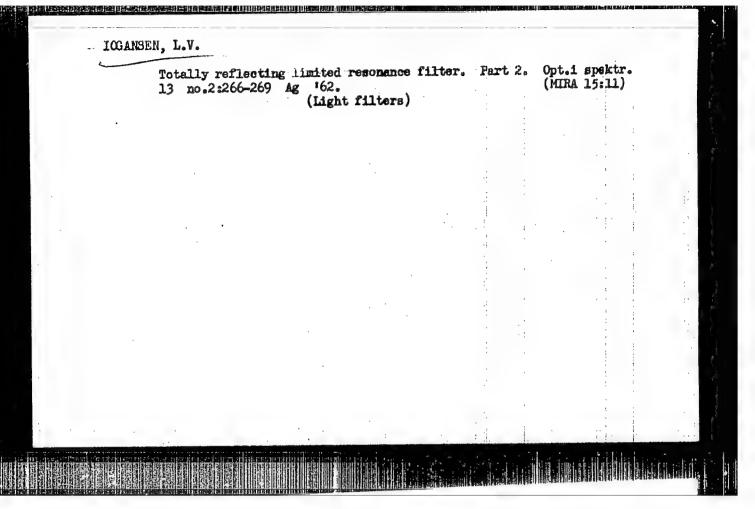
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17.8

noticed because it is largely masked by absorption effects and imperfections in the system. It is emphasized that this effect has nothing in common with the normal diffraction effect due to the limited aperture of the system. In the present paper the author extends the analysis given in his previous three papers and gives a detailed theory of the characteristics of an arbitrary finite resonance filter with total internal reflection. are derived for the amplitudes of waves transmitted and reflected by the filter, for the local and integral transparency of the filter at the maximum of the transmission band and for the local and integral reflection coefficient and the energy stored by the The form and the half-width of the local and integral transmission band are also determined. The calculations refer to the case of plane-parallel waves with the electric vector parallel to the reflecting layers. The paper is entirely theoretical and no numerical experimental results are reported. There is I figure. SUBMITTED: March 2, 1961

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9,2571

37058 \$/057/62/032/004/004/017 B125/B108

AUTHOR:

Iogansen, L. V.

TITLE:

Theory of electromagnetic resonance systems with internal

total reflection

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, v. 32, no. 4, 1962, 406-418

TEXT: The passage of electromagnetic waves through systems of dielectric plane layers (including thin, totally reflecting intermediate layers) is considerably affected by the geometrical dimensions of the system. The considerably affected by the geometrical dimensions of the system. The theory of A. F. Turner (J. Phys. et Rad., 11, 444, 1950), which does not theory of A. F. Turner (J. Phys. et Rad., 11, 444, 1950), which does not the effect of the system boundaries, holds only asymptotically consider the effect of the system boundaries, holds only asymptotically consider the effect of the system boundaries, holds only asymptotically consider infinite systems. The theory of the present author is free from such shortcomings and permits the calculation of a resonance condenser with shortcomings and permits the calculation of a resonance condenser with internal total reflection. The author considers steady oscillations in internal total reflection. The author considers steady oscillations in internal total reflection. The author considers steady oscillations in internal total reflection. The author considers steady oscillations in internal total reflection. The relations A + B = F + G (2.8) and lies in the separating plane. The relations A + B = F + G (2.8) and lies in the separating plane. The relations A + B = F + G (2.8) and lies in the separating plane.

on both sides of the separating plane determine the coefficients of Card 1/1)

Theory of electromagnetic ... $\frac{s/057/62/032/004/004/017}{B125/B108}$ Theory of electromagnetic ... For a slowly changing amplitude, the equation $A(x,z) = k_0(x,z) \exp\left[-i(k_x + k_z z)\right] \text{ yields the approximate solution}$ $A(x,z) = k_0(x,z) \exp\left[-i(k_x + k_z z)\right] \text{ yields the approximate solution}. \text{ In this } k_0(x,z) = f(x-(k_x/k_z)z) \quad (2.13), \text{ where } f \text{ is an arbitrary function.} \text{ In this } case, \text{ the "orthogonality" conditions}$ $A_1 = sA\left(x - \frac{k_z}{k_z}z\right) \exp\left[i(\omega t - k_z x - k_z z)\right],$ $A_2 = sB\left(x + \frac{k_z}{k_z}z\right) \exp\left[i(\omega t - k_z x - k_z z)\right],$ $A_3 = sF\left(x + i\frac{k_z}{q_z}z\right) \exp\left[i(\omega t - k_x x - iq_z z)\right],$ hold referring to planes in which amplitudes and phases are constant. The approximate relations $A = \frac{1}{2}\left(1 + i\frac{g_z}{k_z}\right)F + \frac{1}{2}\left(1 - i\frac{q_z}{k_z}\right)G - \frac{1}{2}\frac{k_z}{q_z k_z}\left(1 + \frac{q_z^2}{k_z^2}\right)(F - G),$ (2.18) and $Card \ 2/\beta y$ $B = \frac{1}{2}\left(1 - i\frac{g_z}{k_z}\right)F + \frac{1}{2}\left(1 + i\frac{g_z}{k_z}\right)G + \frac{1}{2}\frac{k_z}{q_z k_z}\left(1 + \frac{q_z^2}{k_z^2}\right)(F - G),$

Theory of electromagnetic ...

$$F = \frac{1}{2} \left(1 - i \frac{k_s}{q_s} \right) A + \frac{1}{2} \left(1 + i \frac{k_s}{q_s} \right) B - \frac{1}{2} \frac{k_s}{q_s k_s} \left(1 + \frac{k_s^2}{q_s^2} \right) (A' - B'),$$

$$G = \frac{1}{2} \left(1 + i \frac{k_s}{q_s} \right) A + \frac{1}{2} \left(1 - i \frac{k_s}{q_s} \right) B + \frac{1}{2} \frac{k_s}{q_s k_s} \left(1 + \frac{k_s^2}{q_s^2} \right) (A' - B').$$
(2.19)

hold for the slowly changing, complex wave amplitudes. The approximate resonance condition for semibounded resonance condensers (Fig. 2) is

$$tg(k'_sd'_3)_{pas} = -\frac{k'_s(q_s + q'_s)}{(q_sq'_s - k'_s)}.$$
 (3.5).

Exact resonance, however, does not appear with (3.5) and $\varepsilon = (k_z^i d_z) - (k_z^i d_z)_{res}$, but with

$$s_0 = \frac{(q_s^2 - k_s^2)}{(q_s^2 + k_s^2)} \frac{2q_s k_s'}{(q_s^2 + k_s'^2)} \exp(-2q_s d_1).$$
 (3.12).

If electromagnetic waves polarized in the plane of incidence propagate obliquely in a plasma with plane layers with continuously variable dielectric constant, the energy "seeps through" and concentrates in a

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narrow range behind the totally reflecting boundary. The complex wave formulas derived in the present paper are formulated also for bounded condensers. The required properties of these systems can only be realized with dimensions which practically cannot be achieved. Systems with the usual, poorly transparent reflecting layers do not show these shortcomings. Totally reflecting systems with a not too high resolving power can be used for broad beams if metallic reflecting layers cannot be applied. E. V. Shpol'skiy is thanked for his interest in the present study, and V. L. Ginzburg for a discussion. There are 3 figures and 7 references: 3 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: P. Leurgans, A. F. Turner. J. Opt. Soc. Amer., 37, 983, 1947; H. D. Polster, J. Opt. Soc. Amer., 39, 1038, 1949; A. F. Turner. J. Phys. et Rad., 11, 444, 1950; A. E. Gee, H. D. Polster. J. Opt. Soc. Amer., 39,

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina (Moscow State Pedagogical Institute imeni V. I. Lenin)

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Resonance diffraction of elastic waves in plantagered media with

Resonance diffraction of elastic waves in plantilayered media with total internal reflection. Izv. vys. ucheb. zav.; radiofiz. 6 no.5:958-963 '63. (MIRA 16:12)

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S/051/63/014/001/022/031 E039/E120

AUTHOR: logansen, L.V.

TITLE: A finite totally reflecting resonance filter. III

PERIODICAL: Optika i spektroskopiya, v.14, no.1, 1963, 131-136

TEXT: This paper is a continuation of previous work (Optika i spektr., v.12, 1962, 318, and v.13, 1962, 266) on the calculation of the characteristics of a totally reflecting resonance filter extended to take into account finite size and resonance filter extended to take into account finite size and resonance filter extended to take into account finite size and absorption of electromagnetic waves in the material of the filter. The conditions necessary for securing a highly transparent filter in this case are given by $L \gg \ell_0$ and $n \ll 1$, where L is the linear dimension of the filter along the x axis (ℓ_0 not defined) and η is the ratio of the energy absorbed inside the filter to the energy incident on the filter from outside. The transparency is then given by the approximate formula:

 \overline{T} (L, 6) = 1 - 2 η - $\frac{3}{2}$ $\frac{\ell_0}{L}$

(3.17)

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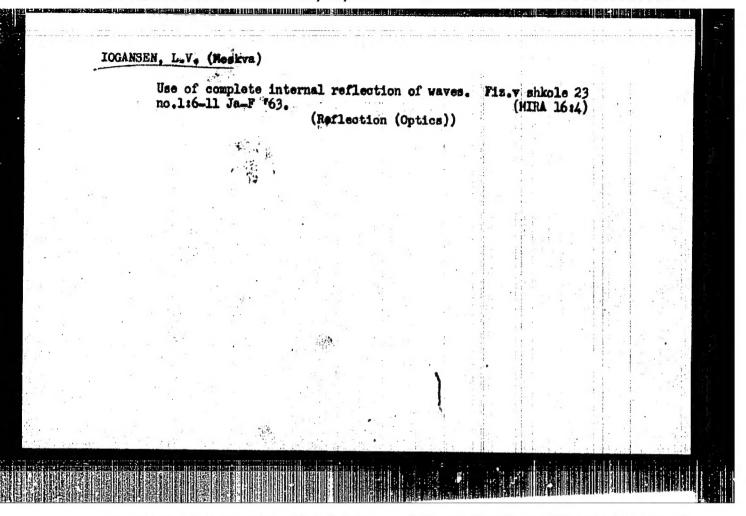
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where T is the transparency, and $\delta = \frac{x_2}{n_2}$ where $\frac{x_2}{n_2}$ is the absorption index and $\frac{n_2}{n_2}$ the refractive index of the filter geometrical size of the filter, and the condition $\frac{n_2}{n_2}$ imposes a limit on the a limit on the selection of material from which the filter can be Fabry Perot interferometer made in the form of a plane-parallel on both sides.

SUBMITTED: January 6, 1962



IOGANSEN, L.V.

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S/048/63/027/001/011/043 B163/B180

AUTHOR:

Jogansen, L. V.

TITLE:

Spectral and energetic characteristics of resonance filters with total internal reflection, taking account of their geometrical dimensions

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27 no. 1, 1963, 24 - 26

TEXT: The transmission and reflection characteristics are calculated for the total reflection filter proposed by Leurgans and Turner. It had been predicted that the pass band could be narrowed to any degree, with complete transparency in the band maximum, simply by increasing the thickness of the two total reflecting layers. This was not confirmed in the experimentanor is Turner's theory applicable, which attributes this discrepancy to imperfections in the total reflecting layers. Here it is shown that the problem cannot be treated correctly by a one-dimensional shown that the problem cannot be treated correctly by a one-dimensional approximation and that energy from the incident radiation is stored in the resonator layer between the two total reflecting layers. If a coordinate Card 1/2

Spectral and energetic ...

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system is used in which the layers are perpendicular to the z - direction, and the incident-wave vector lies in the x - z - plans, the filter properties depend on the x - coordinate, and one must distinguish between the local transmission coefficient T(x), reflection coefficient R(x), and energy accumulation coefficient C(x) on one side, and their integral values on the other. These are obtained by averaging the local coefficients over the filter dimension in x direction. The shape of the local pass band varies slowly with x, its half-widths decreasing with increasing x. The new theory is in good agreement with experimental results of Rozenberg (Optika tonkosloynykh pokrytiy, (Optics of thin-film coatings), Fizmatgiz, copy in Gor'kiy, July 5-12, 1961. There is 1 figure.

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